

Microbiological Centennials: Years to Remember in 1976

Rarely in the history of biological sciences will one find a concatenation of centennials more worthy of observance than does microbiology in 1976. These centennials celebrate the initiation of fundamental awareness of the presence and influence of the microbial world.

This year is the tri-centennial of Antony van Leeuwenhoek's discovery of motile bacteria in pepper-water infusions. For the first time, a human eye perceived the smallest living organisms imagined by Aristotle in his "great chain of being." It is most appropriate that 300 years later microbiologists throughout the world celebrate these evocative observations and their debt to a remarkably perceptive man.

Two hundred years ago, when the 13 colonies declared themselves independent of their mother country, Lazzaro Spallanzani was attempting to resolve the vexing and controversial concepts of the mechanisms for the generation and reproduction of living things. At that time theories on the origin of animalcules and infusoria were confusing and mystical. Spallanzani's *Opuscoli* was the record of a great experimental leap forward, and much concerning the origin and biological characteristics of animalcula was made clear. The technical developments involved in these experiments would, albeit unwittingly, lay foundations for the yet-to-be-born science of microbiology as well as influencing all later investigations of *generatio aequivoca*.

This year marks the centennial of another great event in the history of microbiology with the demonstration by Robert Koch of the etiological agent of anthrax. This discovery was reported in Ferdinand Cohn's *Beiträge zur Biologie der Pflanzen* (1877). The latter wrote: "... this man has made a great discovery, all the more amazing is that he had developed simple, precise and definitive methods entirely on his own. There is nothing to add. I consider this the greatest discovery in the field of bacteriology and believe that Koch will continue to surprise and shame us with further discoveries." We are not less impressed today.

In the same year, Pasteur published his *Etudes sur la bière, ses maladies, causes qui les provoquent. Procédés pour la rendre inaltérable, avec une théorie nouvelle de la fermentation*. Although this does not mark the highest point in Pasteur's brilliant career, it culminates the final task of a long preparation before he finally launched himself totally and irrevocably into the problems of human diseases caused by microorganisms.

The Editorial Board of *Bacteriological Reviews* is happy to participate in the events sponsored by the American Society for Microbiology to mark this year of centennials by offering the following essays. There follows an issue exemplifying some aspects of modern microbiology and immunology.

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